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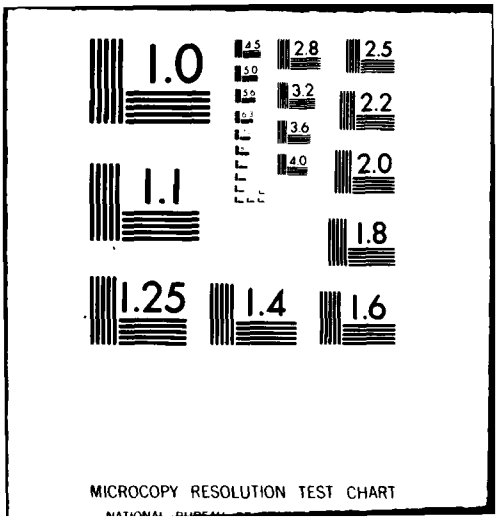
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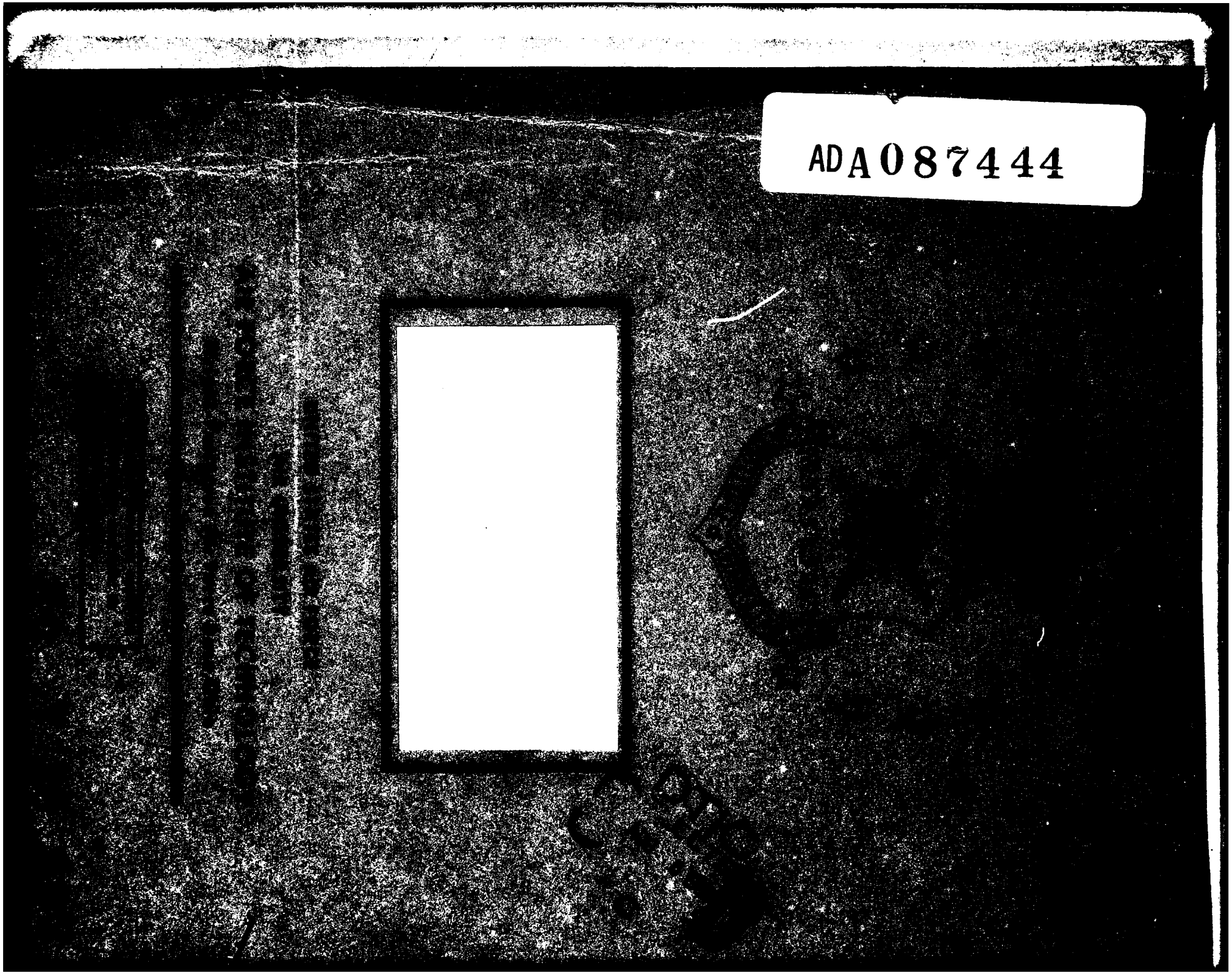

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(6) ATTITUDES AND OPINIONS OF USAF JET ENGINE PERSONNEL CONCERNING ENLISTED CAREER PROGRESSION

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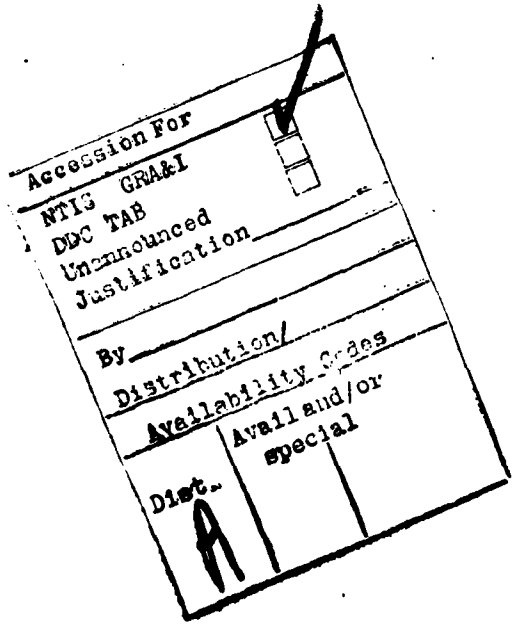

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As the Air Force environment, including weapon systems, becomes more technologically complex, competent technicians have become increasingly important for maintaining force readiness. In spite of this importance, the USAF continues to lose technicians for many reasons. Under the present policy it is essentially impossible for a technician to remain a technician. Under normal career progression, the technician is promoted and moves into supervisory roles. The objective of this research was to determine the attitudes and opinions of enlisted technicians toward the current USAF promotion system. The target population for the survey was USAF specialty 426X2, jet engine technicians. This study was exploratory in nature. It did not attempt to investigate the causes or effects of attitudes, but did attempt to determine the predominant attitudes and their degree of consensus. Subject areas surveyed were importance and status of technicians and supervisors in the USAF, skill and experience levels, current promotion system, the transition from technician to supervisor, and the concept of career technician.

LSSR 2-80

ATTITUDES AND OPINIONS OF USAF JET ENGINE PERSONNEL CONCERNING ENLISTED CAREER PROGRESSION

A Thesis

Presented to the Faculty of the School of Systems and Logistics

of the Air Force Institute of Technology

Air University

In Partial Fulfillment of the Requirements for the

Degree of Master of Science in Logistics Management

By

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June 1980

This thesis, written by

Captain Gary W. Pierce

and

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has been accepted by the undersigned on behalf of the Faculty of the School of Systems and Logistics in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN LOGISTICS MANAGEMENT (MAINTENANCE MAJOR)

DATE: 9 June 1980

COMMITTEE CHAIRMAN

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CHAPTER I

INTRODUCTION

Problem Statement

As weapon systems, as well as the total Air Force environment, have become more technologically complex, competent technicians have become increasingly important for maintaining force readiness. Air Force Chief of Staff, General Lew Allen, Jr., said the following in a public statement on Air Force people:

> To succeed, we need airmen with technological sophistication and high professional standards. . . . We are also beginning to lose more good, experienced people in critical skill areas, many of whom are impossible to replace in the short term [23:13].

In spite of the importance of technicians, the Air Force continues to lose experienced technicians. Many of the reasons for technician loss are beyond the control of the Air Force. Other reasons, however, are controllable.

The Air Force loses technicians in five ways: voluntary separation, involuntary separation, cross training, retirement, or promotion out of technical duties. It is the last of these categories that this research has addressed. Under the present policy, it is essentially impossible for a technician to remain a technician. Under normal career progression, the technician is promoted and

moves into supervisory roles. The technician may or may not want to supervise yet virtually has no choice. There is an implied condemnation of the career technician--he obviously can be of little potential value if he doesn't want to become a supervisor (18). Is this mandatory transition from technician to supervisor consistent with the Air Force need for technicians and emphasis on technical skills?

Review of Literature

The review of literature is divided into four parts.

1. Ongoing and proposed research. This section explains how this research fits into a group of studies.

2. Officer promotion system. Critiques of the officer system and the parallel with the enlisted system are developed.

3. Current Air Force policy. This section is a review of Air Force publications related to enlisted career progression.

4. Contemporary organizational behavior. This introduces theories and opinions relative to the enlisted career progression system.

Ongoing and Proposed Research

This research project was one of six in a proposed pyramid of studies on enlisted career progression in the aircraft maintenance area undertaken over a three year

period (18). It was one of three designed to determine the areas for further research and to serve as a baseline of information for that research.

One project was "A Historical Perspective of the United States Air Force Enlisted Personnel Promotion Policy (1947-1980)," by Hall and Nelsen (9). They examined the policy changes that were made over the years and the reasons for those changes.

A second project was "A Comparative Analysis of Enlisted Career Progression Systems" by Richter and Tharp (19). They compared the current USAF enlisted career progression system with other contemporary military systems (United States Army and Navy, Royal Air Force) and civilian policies. The objective of the study was to highlight the similarities and differences among these systems.

This research was aimed at discovering attitudes and opinions of the USAF enlisted force toward the career progression system. Jet engine technicians were surveyed for this purpose.

The second year research proposals are an overall evaluation of USAF career progression for enlisted maintenance technicians and an exploration of alternative systems. The third year proposal, capping the pyramid, is envisioned as an integrative study culminating in a recommendation on career progression changes. This pyramid (18) is presented as Figure 1.

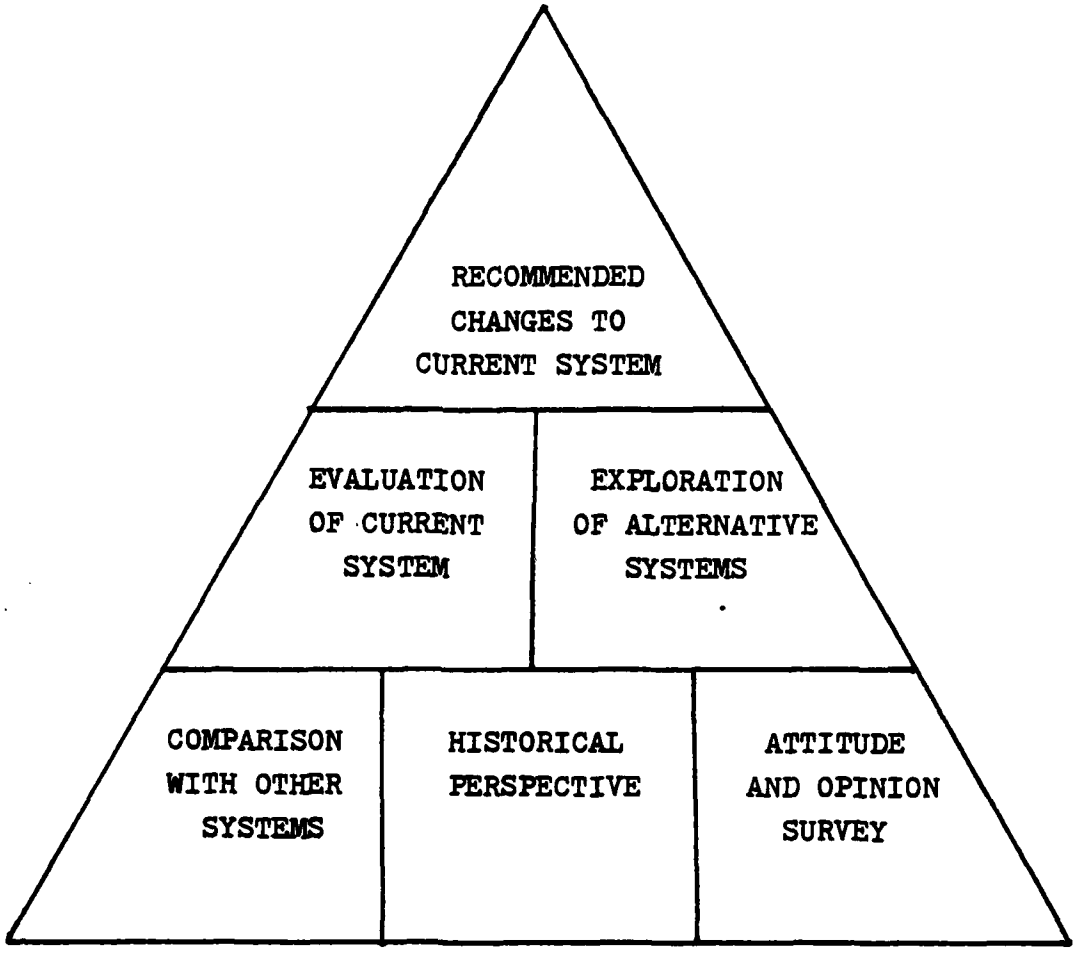


Fig. 1. Pyramid of Proposed Research

Officer Promotion System

A brief historical perspective of why the up-or-out system was chosen for the Army's officer corp was offered in an article by Lt Col Heavner (11:55-57). He found that Generals Marshall and Eisenhower were prominent advocates of the up-or-out policy for the Army. After the outbreak of World War II, it became apparent to top Army leaders that the strict seniority system had not produced capable combat leaders. Generals Marshall and Eisenhower were convinced that up-or-out was the best solution. Their arguments prevailed, but not without debate. Senator Guy Cordon stressed the implicit costs of the up-or-out program when he stated, "It may be that some of the restrictions in the bill are justified for combat units but I feel strongly that they are inadvisable for the technical services [11:567]." Senator Cordon's view is still held by sincere critics of up-or-out. Lt Col Heavner considered the policy to be very costly in terms of experience and training losses.

Lt Col Fischer (5:114) addressed the question of whether the needs of the Air Force are the primary factor in selection for promotion, and whether the right people are being selected to best satisfy these needs. He agreed to the need for a professional pilot corps and felt that the present policies are overlooking the need for profes-

sional corps of supply officers, weapons controllers, missile launch officers, etc.

Officer career progression, or more specifically the up-or-out policy, has become a subject of great controversy in the past few years. A brief look at the letters-to-the-editor departments of the Air Force Times or Air Force Magazine will attest to the subject's current popularity of discussion. As with many issues, a majority of the published opinions are critical of present policy. Virtually all of these writings are concerned with officer career progression; however, a strong parallel can be drawn to enlisted career policy. In both rank structures the emphasis is on shifting from a specialist or technical role to that of a supervisor or manager.

Current Air Force Policy

To understand the nature of the enlisted structure, a review of the regulations and pamphlets prescribing and describing the Air Force policy on enlisted career progression is in order. The enlisted force is organized in a three-tier structure. The first, called the trainee-apprentice tier, is composed of grades E-1 (airman basic) through E-4 (senior airman). The individual progresses from trainee to trainee-apprentice to trainee-apprentice-technician. Learning the skills of the career field and developing professional military skills are the primary

responsibilities of an individual in these grades (21:p.1-1).

The technician-supervisor tier, composed of grades E-4 (sergeant) through E-6 (technical sergeant) calls for increasing supervisory duties and correspondingly decreasing technical duties. Performing technical tasks and providing technical, as well as general military, supervision are the primary responsibilities assigned a person in this tier (21:p.1-1).

In the supervisor-manager tier, grades E-7 (master sergeant) through E-9 (chief master sergeant), the words technician and technical disappear entirely and the transition is decreasing supervisory duties and increasing management duties. The primary responsibility is supervision and management of personnel and resources (21:p.1-1). These relationships are depicted in Figure 2.

Although all reference to the words technician and technical are omitted in describing the supervisor-manager tier, among the prescribed general noncommissioned officer (NCO) responsibilities is the statement that "All NCO's must attain a skill level commensurate with their grade, and maintain a high degree of proficiency in their awarded specialty [21:p.2-1]." If that specialty is a technical one, such as those in aircraft maintenance, proficiency in such a technical specialty may be difficult to maintain when the prescribed primary responsibilities are supervision

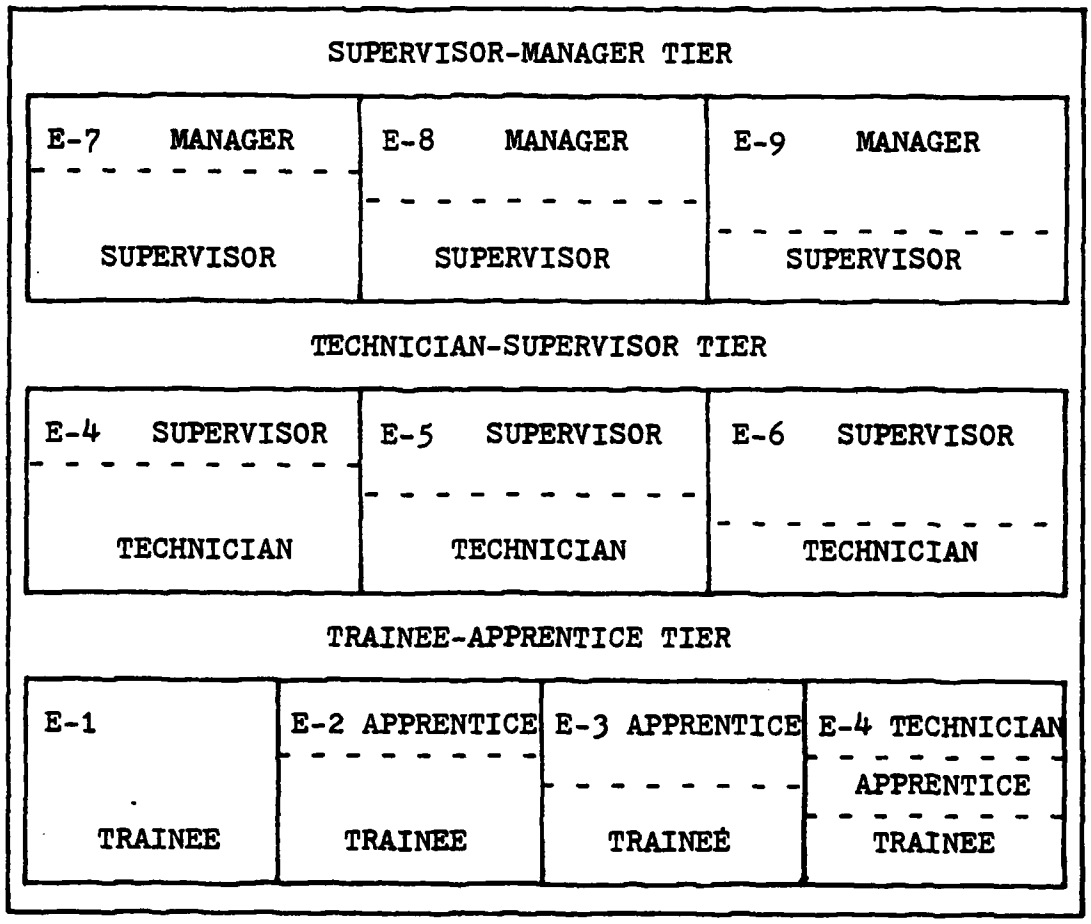


Fig. 2. The Enlisted Force Organization (21:p.1-1)

and management of personnel and resources. Specific NCO responsibilities prohibit a chief master sergeant (CMSgt) or a senior master sergeant (SMSgt) from being a technician. AFR 39-6 states, for the grade of CMSgt, "Although thoroughly trained in the technical aspects of their AFSC, they are managers with supervisory responsibilities, not a supergrade technician [sic]," and for SMSgt, "The SMSgt is a supervisor and a manager, not a supergrade technician" (21:pp.2-1,2-2).

The specific NCO responsibilities prescribed for the middle tier emphasize technical duties and technical supervision as a working leader. Responsibilities for the first tier can be summarized as learning military and technical skills (21:pp.2-2,3-1).

Promotion policy demonstrates another aspect of the prescribed location in the rank structure for the technician. Basic Air Force promotion policy is to "advance airmen who show potential for more responsibility [22:2]," hence promotion is not primarily based on technical skill or competence.

Promotion through E-4 is made on a fully qualified basis which requires attaining specified time in service and time in grade, meeting certain training requirements, and obtaining unit commander approval (22:7). Further promotion uses a best qualified method. Technical skills are acknowledged in the Weighted Airmen Promotion System (WAPS), used for promotion to grades E-5, E-6, and E-7. A specialty knowledge test (SKT) accounts for a potential 100 points out of a maximum of 460 points used in the WAPS (22:25). The SKT is intended to measure <u>knowledge</u> of the career field. A career progression pamphlet states that the key to advancement is "an agressive self-study program designed to maximize test scores [20:3]." Thus, even the SKT admittedly reflects knowledge and not technical skill

and ability. Upon attaining the rank of master sergeant (E-7), no reference is made to technical knowledge as a consideration for further promotion.

Failure to achieve promotion beyond specified ranks within a given time period requires mandatory separation under the Total Objective Plan for Career Airman Personnel (TOPCAP). Under TOPCAP, an E-5 may not serve beyond 20 years; an E-6, 23; an E-7, 26; an E-8, 28; and an E-9, 30 (24:p.B-14).

The direction of the above policies is clear. In order to have a career length past 20 years, promotion is required. Technical skill is not a major determinant for promotion. Acceptance of promotions requires a gradual transition along the continuum of trainee-apprentice-technician-supervisor-manager. While this transition may be appropriate for some people, is it a reasonable expectation for the entire enlisted force, especially for those with highly technical skills?

In "Military Manpower and the All-Volunteer Force," Richard Cooper stated that the emphasis on a first-term intensive force has resulted in policies requiring career enlisted personnel to assume supervisory responsibilities. He expressed the belief that the volunteer force concept is not compatible with the policy of maintaining a first-term

intensive force. He suggested that military needs would be better fulfilled if larger numbers could remain in the service as career technicians (2:126).

Contemporary Organizational Behavior

Contemporary organizational behavior writings suggest, through various models, that people have different needs. The area of job design attempts to recognize these needs and emphasis is placed on designing jobs to fit the important differences among individual employees. Ivancevich et al. (12:153-154) proposed that it is erroneous to believe, as scientific management proposed, that most employees will react favorably to highly specialized, routine jobs. They further propose that it may be equally erroneous to believe that the majority of employees will react favorably to job enrichment. They submit that at least two groups of employees exist--those who actively seek routine jobs and those who need jobs that offer opportunity for personal growth and advancement.

The Hackman and Oldham job characteristics model (12:157) attempts to measure the differences in individual needs. Their construct called "employee growth-need strength" acknowledges that individuals differ in their needs for personal development, increasing abilities, or learning new skills.

As the review of Air Force policy pointed out, promotion within the second and third tiers implies increasing abilities and learning new skills, but in supervisory and management areas, not in technical skills. Further, an individual who is content with a fairly repetitive job, which may involve technical skill, must subordinate his desire to work in that area if he wants to get promoted.

A contemporary management text acknowledges individual differences in a discussion on who should get a promotion.

> Some employees don't want to be promoted. They are happy where they are and don't want to disturb their routine by learning a new job. Other employees place greater value on their leisure and freedom from pressure than they do on the status and added income of a bigger job. Some employees refuse to be promoted to a supervisory status, because they find they cannot be responsible for what others do, . . . or because they know their limitations and recognize that they would probably fail on a more demanding job [7:169].

Hackman (8:153-154) identified dimensions to describe motivation for work. Three of these dimensions deal with the way people view work as a source of satisfaction. He labels them closure seeking, responsibility seeking, and instrumentalist pattern. Closure seekers have developed specialized competence in a skill with which they identify. If they have been trained in a given area, they expect to work in that area and feel that nothing else is as important. They are task-oriented. They expect to retain their technical identification throughout their

careers. Responsibility seekers perceive their training, even in a technical area, as preparation for supervision and management. Their technical skills are subordinate to their interpersonal skills. People in the instrumentalist pattern view work as a means to an end, working for satisfactions not intrinsic to the work itself. One characteristic observed was that instrumentalists were likely to be highly trained in a skill area.

By these definitions, the responsibility seekers would, without a doubt, do well in the Air Force enlisted force structure. If we accept Hackman's classification as valid, then there exist two types of individuals, closure seekers and instrumentalists, for whom there appears to be no place in the USAF enlisted force structure.

Research Objective

What do the people in the enlisted force think about the prescribed career progression system? In a letter to the editor of the Air Force Times, an individual identified only as a MAC NCO wrote:

> There is a fundamental flaw in the way the Air Force is managing its middle level NCOs--E-5s, E-6s and E-7s. . . . proliferation of leadership and management schools has led thousands of midlevel NCOs to believe that their destiny is to lead and manage but not to perform the skills for which they were trained. . . . But then who can blame these NCOs? They know one of the prime requisites for promotion to the supergrades is an impressive job description. The term "technician" in a job description is anathema to advancement.

> In these times of increasingly complex and sophisticated weapons systems, we must have only the most highly trained and competent personnel maintaining them. We must reduce the emphasis placed on teaching everyone to be leaders and managers. Our people must be allowed to practice the technical skills they were trained to perform. This way, they can gain valuable experience and use it to its fullest potential.
>
> The stigma generally attached to those who actually perform maintenance tasks must be eliminated. Only then will the AF begin to use its people in the most effective manner [15:21,34].

Is this opinion typical or is it the exception? No attitude and opinion surveys about the career progression system have been administered to the enlisted force in recent years, according to the Air Force Manpower and Personnel Center Survey Branch (10).

The objective of this research was to determine the attitudes and opinions of enlisted personnel toward the career progression system, within the framework of a technical career field.

Research Questions

To accomplish this objective, the following research questions were considered.

1. What is the perceived importance of the technician and the supervisor in the USAF?

2. What is the perceived status of the technician and the supervisor under the current career progression system?

3. What are the perceptions concerning skill and experience levels?

4. What are the attitudes toward the promotion system and the transition from technician to supervisor?

5. What are the attitudes toward the concept of a career technician?

CHAPTER II

METHODOLOGY

Overview

In Chapter I the research objective and research questions were identified. This chapter deals with the procedures used in this research. The population sampled is described and the sampling technique is defined. Aspects of the survey instrument are then discussed. Following the discussion of the survey instrument is a section on the data analysis techniques employed and the assumptions and limitations used.

Research Design

A research design should be constructed to enable the researcher to answer the research questions with as much validity, objectivity, accuracy, and economy as possible. A perfect design would allow the researcher to obtain results which would exhibit both reliability and validity (4:119). But, there are certain limitations and constraints which require that practicality also be considered. Practicality dictates tradeoffs in areas such as economy or cost of the research, convenience of administration, and interpretability (4:126). Additional constraints may also be operative. The

research design of this thesis was prepared as an attempt to obtain a reasonable combination of validity and reliability under the constraints of economy, convenience, interpretability, and time.

Population

Many Air Force technicians are in the aircraft maintenance career arena. This encompasses several career fields and a number of Air Force specialities. The largest of these is the aircraft maintenance specialist, 431XX, commonly referred to as the APG (airplane generalist) or crew chief. This career field was not considered to be as highly technical as many of the specialist career areas, such as electrical, hydraulic, sheet metal, welding, avionics, or jet engine specialists, to name a few.

In selecting from these career areas, the jet engine specialist ladder, 426X2, was subjectively selected and assumed to be reasonably representative of aircraft maintenance specialty areas. Due to time constraints on this research, those jet engine specialists assigned to USAF bases outside the continental United States (CONUS) were excluded from the defined population. (Despite this limitation, there was no reason to believe that specialists assigned overseas would have different attitudes and opinions toward the career progression system than those assigned in the CONUS.)

Another limitation imposed was that the specialists should be working in this career field and have had time to form some opinions about it. For these reasons individuals holding the rank of airman basic were excluded, as they would generally be assigned to technical training and have less than six months total active service time.

Because of the convergence of Air Force specialties at higher ranks, the choice of 426X2 by definition excluded SMSgts and CMSgts from the target population.

In summary, the population consisted of personnel in Air Force specialty 426X2 (jet engine) with rank of E-2, airman through E-7, master sergeant, inclusive, assigned within the CONUS.

Sampling Technique

To ensure that the sample data could be evaluated by statistical methods, and to ensure that biases were avoided that could enter if judgment were used to select the sample elements, a probability sample of the simple random sample type was employed (16:182). The master personnel file at the Air Force Manpower and Personnel Center (AFMPC) served as the sampling frame from which the random sample was selected.

The personnel of the Survey Branch of AFMPC approved the survey for dissemination but imposed a limitation on the sample size. The requested sample size of 1000 was denied and a reduced sample of 750 was authorized (6).

Survey Instrument

General

There are many data collection techniques available to measure human attitudes, attributes, and behavior. Included in these techniques are observation, personal and public records, specific performances, sociometry, interviews, questionnaires, rating scales, pictorial methods, projective methods, and achievement testing (3:II-B,p.1). The choice of a questionnaire technique used in this research was based on three major factors: (1) the purpose of the research or, more specifically, the type of data desired; (2) severe time constraints; and (3) the geographic dispersion of the sample elements.

A fully proven survey instrument is very desirable from the point of view of reliability and validity. Unfortunately, an instrument capable of measuring the particular attitudes applicable to this project could not be found. An original instrument was constructed.

Questionnaire Construction and Testing

Many sources of guidance for questionnaire construction are available to the researcher. The Questionnaire Construction Manual was selected as a guide for construction (3). This manual was prepared primarily for the use and guidance of those tasked to develop and administer questionnaires as part of Army field tests and evaluations. The general content and concepts were designed for an individual involved in the construction and administration of questionnaires (3:I-A,p.1).

The recommended general sequence for preparing a questionnaire included preliminary planning, determining the content of questionnaire items, selecting question forms, wording of questions, formulating the questionnaire, and pretesting (3:III-A,p.1).

After determining the objectives for this research, several unstructured interviews were conducted with NCOs in an attempt to garner some idea of the range of opinions toward the career progression system. Considering this knowledge, question construction was begun. Emphasis was given to clarity of wording and minimizing wording bias. Three AFIT faculty members and one AFIT research team reviewed the questionnaire and evaluated it as to clarity and compatibility with research objectives.

The questionnaire was not subjected to classical validity tests. The importance of the tests will not be contested. However, there is some support for not subjecting attitudinal questionnaires to classical tests. Bohrnstedt (1:91) states that although content validity should be carefully considered in the construction of achievement and proficiency tests, it is not usually of prime consideration in dealing with attitudinal scales. Kerlinger and Kaya (13:264) warn that comparing one attitude instrument against another as a validity check can be a circular as well as dangerous procedure. They place importance in data analysis techniques for establishment of validity.

The questionnaire was pretested in November 1979 by administering it to thirty AFIT students. These students were officers and NCOs attending courses in the AFIT School of Systems and Logistics Continuing Education Division or Graduate Education Division. All the NCOs were from technical career fields and the officers were in management positions related to technical career areas. These thirty people were asked to fill out the questionnaires and to critique its content and structure.

Based on analysis of the pretest responses and recommendations received, questions were added, deleted, or revised. The final version of the questionnaire is contained in Appendix A.

Questionnaire Structure

The questionnaire is divided into three sections. The first section (items 1-11) was designed to gather demographic and career intent data. The second section (items 12-62) consists of 49 statements with which the respondent was to express personal agreement or disagreement, and two statements with multiple choice responses. Section 3 (items 63-65) consists of three open-ended questions to offer a forum for comments individuals might choose to make including opinions about problems within the current promotion system, recommended changes to it, or any other comments pertinent to the areas mentioned in the questionnaire.

Section 2 is the core of the questionnaire. Statements were designed to provide attitudes and opinions in the following areas:

1. The perceived importance of technicians and supervisors in the Air Force. Also included was ease of replacement.

2. The status of technicians and supervisors in the Air Force. Status was operationally defined as perceived respect, value, and pride.

3. Perceptions about skills and experience. This included needed skills, available skills, and experience of both technicians and supervisors.

4. The attitudes toward the transition from technician to supervisor; the promotion system in general.

5. Opinions on the concept of the career technician. Career technician was operationally defined as a technician with 15 to 30 years of experience who is primarily a technician or technical supervisor rather than a supervisor.

Measurement Scale

For the purpose of this research, a Likert-type seven point scale was chosen for most of the responses (items 12-60). The responses possible were: (A) strongly disagree, (B) disagree, (C) slightly disagree, (D) undecided/don't know, (E) slightly agree, (F) agree, and (G) strongly agree. The Likert-type scale was chosen over other measurement scales because of advantages which include ease of construction, proven discriminating ability, and response reliability (4:250). A question arose as to whether the Likert-type scale should be considered as interval or ordinal level of measurement. In this research the scale was considered to yield only ordinal level data. This position is consistent with that taken by Emory and Dyer et al. (3:V-C,p.2; 4:250).

Questionnaire Definitions

Technician, technical supervisor, supervisor, and manager were operationally defined. These definitions were included in the questionnaire for identification of

respondents' current duties and for consistency in interpretation of the questionnaire statements.

Technician was defined as one who uses technical skills to perform maintenance on jet engines or their components. This may be done as an apprentice, mechanic, technician, or specialist, as these terms are used in duty titles. The key idea is "wrench in hand."

Technical supervisor was defined as one who uses technical skills to perform maintenance on jet engines or their components and who also directly supervises those performing maintenance. The key idea is "supervising with wrench in hand."

Supervisor was defined as one who is accountable for the work of technicians and technical supervisors, and for the administrative details involved with that work. This includes, but is not limited to, duty status, training, supply accounts, work assignments, priority setting, and technical and administrative documentation. The key idea is "pencil in hand."

Manager was defined as one who is accountable for the overall planning, organizing, coordinating, directing, and controlling of maintenance activities, at branch level or higher.

Response to Survey

AFMPC approved the sending of 750 questionnaires. Names were randomly drawn from the AFMPC master personnel file meeting the delineation of the target population, as previously discussed. These individuals represented 72 bases throughout the CONUS.

A total of 388 questionnaires were returned; 52% of those sent. Of these, 13 were returned unanswered for various reasons such as individual TDY, discharged, no longer in the 426X2 career field, or addressee unknown. Three were returned too late to be included in the data base.

Data Base

The raw data (responses to the questionnaire items 1-62) were transferred from the answer sheets to a computer file using an optical scan device. Several FORTRAN programs were written and run against the data file as a quality control measure. Three entire cases were discarded as a result. In each instance the individual was judged to not have made a reasonable effort to complete the survey. Two respondents were found to have marked all A's on the answer sheets. Another respondent was judged to have randomly marked the items, due to his multiple use of invalid response choices. Additionally, the optical scanner was found to have transferred eight items incorrectly.

These errors were corrected by manual inputs from the answer sheets so that the cases could be retained in the base.

The net result was a data base consisting of 369 useable cases. This represented 49% of the questionnaires sent out. A return rate of 45% to 50% is considered normal for Air Force surveys (6).

Data Analysis

As in most types of social science research, the first task of data analysis was to examine the responses to the items in the questionnaire, both the demographic variables and the attitudinal variables, in terms of their distributional characteristics (17:7). Computer programs for analysis were from the Statistical Package for the Social Sciences (SPSS) (17). The appropriate subprogram within SPSS for distributional characteristics is FREQUENCIES. The results of the FREQUENCIES run on demographic and career intent variables are presented in Chapter III.

FREQUENCIES was run against the attitudinal variables. Strongly disagree, disagree, and slightly disagree responses were grouped as disagree for these runs. Similarly the three choices for agreement were grouped. FREQUENCIES provided an indication of the concensus, or lack of it, on each response item. The results are contained in tables presented in Chapters IV through VIII.

Attitudinal questions were then examined to determine whether there were any differences among the various demographic and career intent groupings. This was investigated by using the subprogram CROSSTABS which produced contingency tables. Review of the tables showed that certain groups responded differently than others. Differences were tested statistically to determine if they were indeed significant. Selected pairs of questions were examined to determine if overall responses were different. A confidence interval approach was used for these tests. Both statistical procedures are explained in Appendix B. The tabulation of opinions expressed with demographic variables providing insight into the responses are provided in Chapters IV through VIII. All differences discussed in these chapters met the criteria of significant difference by the statistical tests, unless specifically indicated otherwise.

A limitation to this approach is that since multiple tests were conducted on the same data base, the alpha level may have been somewhat greater than that specified by an individual test.

An internal consistency check was performed on the data base. Questionnaire items 22 and 50 were converse statements. Item 22 stated "The Air Force promotion system does not reward technical skills." Item 50 stated "The Air Force promotion system rewards technical skills." Comparisons were made between the agreement with 22 and

disagreement with 50, and between the disagreement with 22 and agreement with 50. Although the percentages differed, they were shown to be not statistically different when tested by the confidence interval approach (Appendix B).

A total of 219 of the respondents, 59%, wrote comments for Section 3, the open-ended questions 63-65. These were informally analyzed with the intent of providing further insight into responses, and to identify issues which may be pertinent for future research in this area. Specific procedures and results are discussed in Chapter IX.

Assumptions and Limitations

The assumptions made included the following:

1. Jet engine technicians are representative of aircraft maintenance technicians.

2. The attitudes and opinions of jet engine technicians assigned outside the CONUS do not, as a whole, differ from those of technicians assigned within the CONUS.

3. The operational definitions are useful and reasonable.

4. The survey instrument is a reasonably valid and reliable measurement tool.

5. Survey participants responded candidly, and marked the answer sheets correctly.

The limitations were:

1. In the measurement of attitudes, only limited accuracy can be obtained.

2. While analysis may show association among variables, no cause and effect relationships were studied.

3. The sample size was limited by AFMPC and the return rate.

4. Responses were analyzed and interpreted in accordance with the best judgment of the authors.

CHAPTER III

DEMOGRAPHIC AND CAREER INTENT

Demographic Results

Questionnaire items one through eight and eleven provided a demographic profile of the respondents. The results are presented in the following tables and discussion. The item number in parentheses indicates the questionnaire item number from which the tables were derived.

Table 1 (item 3) indicates that slightly more than three fourths of the respondents were 30 years old or younger.

TABLE 1

AGE ON LAST BIRTHDAY

	Frequency		
Category	Absolute	Percentage	Cumulative %
20 or less	78	21.2	21.2
21-25	137	37.2	58.4
26-30	64	17.4	75.8
31-35	61	16.6	92.4
36-40	24	6.5	98.9
41 or more	4	1.1	100.0
No response	1	--	--
Total responses	369	--	--

As Table 2 (item 2) shows, the ratio of male to female respondents was approximately seven to one. Women comprise 9.3% of all active duty Air Force personnel (14:6).

TABLE 2

SEX

	Frequency		
Category	Absolute	Percentage	Cumulative %
Male	323	87.8	87.8
Female	45	12.2	100.0
No Response	1	--	--
Total Responses	369	--	--

Table 3 (item 2) indicates that well over half the respondents were married.

TABLE 3

MARITAL STATUS

	Frequency		
Category	Absolute	Percentage	Cumulative %
Married	212	57.6	57.6
Single, previously married, or separated	156	42.4	100.0
No Response	1	--	--
Total Responses	369	--	--

Table 4 (item 4) shows that half the respondents were in the first tier of the enlisted force structure. Most of the remaining respondents were in the middle tier. Only 4.1% were master sergeants in the top tier, but recall that senior master sergeants and chief master sergeants were not surveyed because of the different Air Force specialty codes applicable to these ranks. (See discussion in Chapter II under population.)

TABLE 4

GRADE

	Frequency		
Category	Absolute	Percentage	Cumulative %
Airman	21	5.7	5.7
Airman First Class	110	29.9	35.6
Senior Airman	53	14.4	50.0
Sergeant	24	6.5	56.5
Staff Sergeant	84	22.8	79.3
Technical Sergeant	61	16.6	95.9
Master Sergeant	15	4.1	100.0
No Response	1	--	--
Total Responses	369	--	--

Table 5 (item 5) indicates that 50% of the respondents were on their first enlistment which is consistent with the 50% in Table 4 in the first tier of the enlisted force structure.

TABLE 5

YEARS OF ACTIVE MILITARY SERVICE

	Frequency		
Category	Absolute	Percentage	Cumulative %
Less than 4	184	50.0	50.0
≥ 4, < 8	57	15.5	65.5
≥ 8, < 12	48	13.0	78.5
≥ 12, < 16	47	12.8	91.3
≥ 16, < 20	27	7.3	98.6
≥ 20, < 24	4	1.1	99.7
≥ 24, < 28	1	.3	100.0
No Response	1	--	--
Total Responses	369	--	--

Table 6 (item 7) indicates that only 6.3% of the respondents were still 3 levels. Although half of the respondents were first termers (Table 5) most had been on the job long enough to have trained to the 5 skill level.

The Table 7 (item 11) breakdown of duties corresponds very closely with the grade structure in table 4 interpreted in accordance with the three tiered enlisted structure discussed in Chapter I (See Figure 2, page 8).

TABLE 6

SKILL LEVEL

Category	Frequency		
	Absolute	Percentage	Cumulative %
3 level	23	6.3	6.3
5 level	203	55.3	61.6
7 level	134	36.5	98.1
9 level	7	1.9	100.0
No response	2	--	--
Total responses	369	--	--

TABLE 7

CURRENT DUTIES

Category	Frequency		
	Absolute	Percentage	Cumulative %
Technician	168	47.2	47.2
Technical Supervisor	128	36.0	83.2
Supervisor	52	14.6	97.8
Manager	8	2.2	100.0
No response/ Invalid response	13	--	--
Total responses	369	--	--

Table 8 (item 6) shows a little over one third of the respondents were assigned to TAC, while MAC and SAC were each represented by about one fourth of the respondents.

TABLE 8

MAJOR COMMAND ASSIGNMENT

	Frequency		
Category	Absolute	Percentage	Cumulative %
TAC	131	35.6	35.6
MAC	98	26.6	62.2
SAC	89	24.2	86.4
ATC	35	9.5	95.9
AFLC	8	2.2	98.1
AFSC	7	1.9	100.0
No response	1	--	--
Total responses	369	--	--

As Table 9 (item 8) indicates, only 3 respondents did not have a high school education while almost 40% had some education beyond high school.

TABLE 9

EDUCATION

Category	Frequency		
	Absolute	Percentage	Cumulative %
Less than high school	3	.8	.8
High school or equivalent	219	59.5	60.3
Less than 2 yrs past high school	121	32.9	93.2
Associate degree or 2 yrs college	24	6.5	99.7
Bachelors degree	1	.3	100.0
No response	1	--	--
Total responses	369	--	--

Career Intent Results

Questionnaire items nine and ten asked for attitude toward making the Air Force a career, and the anticipated number of years of service at retirement.

While 43.8% of the respondents were favorable toward an Air Force career, 31.5% were not, and 24.7% were undecided, as depicted in Table 10.

The 42.5% of the respondents who indicated anticipated years of service at retirement (Table 11) was not significantly different from the percent favorable to an Air Force career (Table 10). Likewise the groups of "not sure" and "do not plan to retire" in Table 11 corresponded to the

"not sure" and "no career intent" groups as reflected in Table 10. The difference between these grouped percentages was not significant.

TABLE 10

CAREER ATTITUDE

	Frequency		
Category	Absolute	Percentage	Cumulative %
Have already made Air Force a career	75	20.4	20.4
Definitely intend to make the Air Force a career	30	8.2	28.6
Probably will make the Air Force a career	56	15.2	43.8
Not sure/undecided	91	24.7	68.5
Probably will not make the Air Force a career	48	13.0	81.5
Definitely will not make the Air Force a career	68	18.5	100.0
No response	1	--	--
Total responses	369	--	--

TABLE 11

ANTICIPATED YEARS OF SERVICE AT RETIREMENT

Category	Frequency		
	Absolute	Percentage	Cumulative %
N/A-do not plan to serve until retirement	134	36.5	36.5
20 years	110	30.0	66.5
21-23 years	30	8.2	74.7
24-26 years	12	3.3	77.9
27-28 years	0	--	77.9
29-30 years	4	1.1	79.0
Not sure	77	21.0	100.0
No response	2	--	--
Total responses	369	--	--

Interrelationships

Age, grade, years of service, skill level, and current duties were all highly interrelated as would be expected. While 50% overall had less than four years of service, 80% of the women were in this category. Sixty percent of the women expressed no career intent, compared with 32% overall. However, years of service and career intent were related, with 51% of those with less than four years indicating no career intent, and only 13% of those with more than four years indicating no career intent.

Some of these interrelationships will be seen in the analysis of responses in the next chapters.

CHAPTER IV

PERCEIVED IMPORTANCE

Introduction

The first research question concerned the perceived importance of the technician and the supervisor in the USAF. Perceived ease of replacement was also viewed as a measure of importance. The opinions solicited were those of the individuals as well as their perception of the Air Force viewpoint. The questionnaire items designed to tap these opinions are listed in Table 12 with the percentages by response categories.

Results

Each of the statements from Table 12 is listed and discussed below.

19. I think technicians are important to the Air Force.

54. The Air Force thinks that technicians are important.

About 98% of the respondents agreed with the first statement. However, in response to the second statement, only 71% agreed, considerably lower. For the second statement the level of agreement was similar across the major

TABLE 12

IMPORTANCE AND EASE OF REPLACEMENT

		PERCENT		
		Disagree	Agree	Undecided/ Don't know
19.	I think technicians are important to the Air Force.	2	98	1
54.	The Air Force thinks that technicians are important.	20	71	8
16.	I think supervisors are important to the Air Force.	6	91	2
21.	The Air Force thinks that supervisors are important.	8	86	7
29.	Families believe supervisors are more important to the Air Force than technicians are.	28	28	44
30.	When technicians leave my work center (PCS, separation, etc.), it is easy to replace their technical skills.	76	20	4
39.	The Air Force believes it is easy to replace an experienced technician.	33	55	12

NOTE: Some rows do not sum to 100% due to no response/invalid response or rounding.

commands except for Air Training Command (ATC). Only 54% of the ATC respondents agreed with the statement, compared to 73% average for the other major commands. Variations among the other commands were not significant. Of the respondents who disagreed with the second statement, two groups differed significantly from the overall 20% disagreement. Of those who said they definitely intended to make the Air Force a career, only 7% disagreed. Of those who said they definitely would not make the Air Force a career, disagreement was 31%.

16. I think supervisors are important to the Air Force.

21. The Air Force thinks that supervisors are important.

Ninety-one percent of the respondents agreed with the first statement, while 86% agreed with the second. Of those who disagreed with the first statement, 65% were first term airmen. Disagreement among those inclined toward the Air Force as a career was only 3%, while 10% of those probably or definitely not intending to make the Air Force a career disagreed.

For the second statement the level of agreement was similar across the major commands except for ATC. Here, again, similar to the response to Air Force opinion of

technicians, ATC agreement at 74% was significantly lower than the other commands' average agreement of 87%.

Table 13 shows the percentages of disagreement with questionnaire item 21, "The Air Force thinks that supervisors are important," grouped by current duties.

TABLE 13

DISAGREEMENT WITH ITEM 21

Technician	Technical Supervisor	Supervisor	Manager
5.4%	8.6%	13.5%	25.0%

While each category was not significantly different from the adjacent category, technicians were significantly different from supervisors. Also, technicians grouped with technical supervisors were significantly different from supervisors grouped with managers.

29. Families believe supervisors are more important to the Air Force than technicians are.

Response was equally divided between agree and disagree, with a substantial number undecided (44%). While 34% of the married respondents disagreed, only 19% of the unmarried respondents disagreed. The agreement percentages were not significantly different but over half of the unmarried respondents marked undecided/don't know.

30. When technicians leave my work center (PCS, separation, etc.), it is easy to replace their technical skills.

Disagreement was 76%. First term airmen level of disagreement was 68%, while second term and beyond showed disagreement at 83%, significantly higher. Similarly, 73% of the technicians and technical supervisors disagreed, as did 87% of the supervisors and managers. Across the major commands, two showed significant differences from the rest. The Strategic Air Command (SAC) respondents disagreed more than the others, with 85%. At the other extreme, only 49% of the ATC respondents disagreed. The command differences were not related to the first term differences. That is, ATC was low and SAC was high among the first term responses and this also held true among the responses of those with more time in service.

39. The Air Force believes it is easy to replace an experienced technician.

Only 33% disagreed, while 55% agreed. One half of the technicians agreed, while 61% of the technical supervisors, supervisors, and managers agreed.

Observations

The respondents readily agreed that technicians and supervisors are important to the Air Force and disagreed that it is easy to replace technical skills when a tech-

nician leaves. However, their perceptions of the Air Force attitudes were different. While still basically agreeing that the Air Force thinks technicians and supervisors are important, the level of agreement was lower and over half were of the opinion that the Air Force believes it is easy to replace an experienced technician. One can infer, then, that the respondents believed the Air Force does not attach as high a level of importance to them as they believe they deserve.

CHAPTER V

PERCEIVED STATUS

Introduction

The second research question concerned the respondents' perception of their status. Status was viewed as how they were regarded or respected by their peers and by the Air Force (through its policies). Questionnaire items used to capture these opinions are listed in Table 14 which also summarizes the results.

Results

Each item from Table 14 is listed and discussed below.

26. The Air Force regards supervisors more highly than it regards technicians.

The respondents indicated 71% agreement. Those with less than four years of service agreed more than those with over four years (83% vs. 60%). Those not intending careers agreed more than those with career intentions (85% vs. 60%). These two groupings were highly related, however, as 51% of those with less than four years expressed no intent for an Air Force career.

TABLE 14

PERCEIVED STATUS

		PERCENT		
		Disagree	Agree	Undecided/ Don't know
26.	The Air Force regards supervisors more highly than it regards technicians.	20	71	8
13.	Good supervisors are respected by the people they work with.	8	90	2
45.	Good technicians are respected by the people they work with.	7	92	2
51.	Good technicians who have not been promoted are respected for their technical skills.	26	65	9
25.	A technician who has not been promoted is less respected than a technician who has been promoted.	44	50	6
28.	I believe that the person who does not get promoted is less valuable than one who does.	83	13	4
52.	The Air Force believes that the person who does not get promoted is less valuable than the one who does.	23	65	12
38.	I feel that technicians are valuable to the Air Force, whether or not they are promoted.	10	87	3
34.	I believe that technicians should be proud of their abilities.	3	96	1
14.	The Air Force is proud of its technicians' abilities.	34	55	11

NOTE: Some rows do not sum to 100% due to no response/invalid response or rounding.

13. Good supervisors are respected by the people they work with.

45. Good technicians are respected by the people they work with.

These statements had 90% and 92% agreement respc-tively. Only one group emerged with a significant difference on either question. In response to the first statement, women disagreed more than men (16% vs. 7%).

51. Good technicians who have not been promoted are respected for their technical skills.

25. A technician who has not been promoted is less respected than a technician who has been promoted.

Agreement was 65% and 50% respectively. Women agreed at a level significantly lower than men on the second statement, with 36% of the women agreeing compared to 52% for men.

28. I believe the person who does not get promoted is less valuable than one who does.

52. The Air Force believes that a person who does not get promoted is less valuable than one who does.

This pair demonstrated a significant difference between individual perceptions and those attributed to the Air Force. Agreement with the first statement was only 13%, compared to 65% agreement for the second.

38. I feel that technicians are valuable to the Air Force, whether or not they are promoted.

The 87% agreement was consistent with the 83% disagreement expressed for the first item in the preceeding pair.

34. I believe that technicians should be proud of their abilities.

14. The Air Force is proud of its technicians' abilities.

Very high agreement was expressed with the first statement, 96%, while only 55% agreed with the second statement significantly lower. Agreement with the second statement was higher among those with more than four years service (63% vs. 48% for first termers). It was also higher for those with career intent than for those with no career intent (70% vs. 41%).

Observations

In general the respondents agreed that good technicians and supervisors are respected. They felt technical skills are respected and technicians should be proud of their abilities. Technicians not promoted are viewed as still valuable, though perhaps less respected. The respondents believed the Air Force regards supervisors more highly than it regards technicians and that a person who is not promoted is seen as less valuable by the Air Force. The

expression of individual pride in technician's abilities was much stronger than the perception of the Air Force's pride in its technician's abilities.

CHAPTER VI

PERCEIVED SKILL AND EXPERIENCE

Introduction

The third research question concerned perceptions related to skill and experience level. The results of the responses are shown in Table 15.

Results

Individual items from Table 15 are listed and discussed below.

12. In today's Air Force, technicians need to be more highly skilled than ever before.

The overall agreement to this item was 89%. One would expect high overall agreement because as systems become more sophisticated, a higher degree of technical skills is needed to maintain these systems. Personnel with less than four years service agreed at 84% while those with more than four years agreed at 95%. Skill level breakdown showed that three levels agreed at 70%, five levels agreed at 87%, and seven levels agreed 96%. (The sample size for the nine levels was not sufficiently large to show a significant difference.) Technicians agreed at 85% while the technical supervisor-supervisor-manager grouping agreed

TABLE 15

PERCEIVED SKILL AND EXPERIENCE

		PERCENT		
		Disagree	Agree	Undecided/ Don't know
12.	In today's Air Force, technicians need to be more highly skilled than ever before.	8	89	2
20.	Air Force technicians in my career field are, on the whole, adequately skilled.	20	78	2
24.	Air Force technicians in my career field are, on the whole, adequately experienced.	26	67	7
15.	The quality of work performed by technicians in my career field is above Air Force standards.	27	58	16
23.	The Air Force encourages technicians in my career field to get extended experience as technicians.	39	45	16
58.	It's difficult for supervisors to retain those technical skills they no longer have the opportunity to use.	20	75	5
43.	I am satisfied with the quality of supervision I receive.	47	49	4

NOTE: Some rows do not sum to 100% due to no response/invalid response or rounding.

at 93%. These last few statements follow the logic that as personnel get more experience, they realize the increasing importance of technical skills.

20. Air Force technicians in my career field are, on the whole, adequately skilled.

A majority of the respondents agreed (78%) but 20% disagreed. The level of agreement for personnel intending careers was 81% while of those not intending careers only 67% agreed.

24. Air Force technicians in my career field are, on the whole, adequately experienced.

Again, a majority of the people agreed (67%) but 26% disagreed. Personnel with less than four years in service agreed at 62% while those with more than four years agreed at 73%. An even greater spread was found using career intention. Those intending careers agreed at 78% while those not intending careers agreed at only 53%.

15. The quality of work performed by technicians in my career field is above Air Force standards.

Overall agreement was only 58% and disagreement rather high at 27%. The only groups differing significantly were by career intentions. Of those intending a career,

65% agreed while those not intending a career agreed at 47%. Opinions on this item could have been influenced by interpretations of "Air Force standards", by the quality of work being performed, or by both.

23. The Air Force encourages technicians in my career field to get extended experience as technicians.

Agreement was at 45% while disagreement was at 39%. The career intending group agreed at 53% while those not intending careers agreed at 29%. If there is a need for extended experience as technicians, the Air Force, through its policies and procedures, is not communicating this need.

58. It's difficult for supervisors to retain those technical skills they no longer have the opportunity to use.

General agreement was at 75% and differences appeared in years of service and current duties categories. Personnel with more than four and less than eight years of service agreed at 88% while the other year groupings averaged 72%. In the current duties category, technical supervisors agreed at 81% compared with 71% for other duty categories.

43. I am satisfied with the quality of supervision I receive.

Only 49% of the respondents were satisfied with the quality of supervision while 47% indicated they were not satisfied. Groups differing were by grade and career intent. E-4s disagreed at 64% while other grades did not differ significantly from the average 43%. Those intending a career disagreed at 41% while those not intending disagreed at 64%.

Questionnaire items 61 and 62 addressed opinions on the attention the Air Force gives to developing supervisory and technical skills. Table 16 shows the results for these questions.

TABLE 16

SKILL DEVELOPMENT

Which of the following most closely represents your opinion of the amount of attention the Air Force gives to developing:

	supervisory skills?	technical skills?
Not nearly enough	15%	17%
Not enough	30%	40%
Undecided/no opinion	17%	9%
Enough	27%	32%
Too much	10%	1%

Observations

The respondents generally agreed that today's Air Force technicians need to be highly skilled. The skill and experience levels, and quality of work, perceived by the jet engine technicians were considered adequate but 20 to 26% of the respondents did disagree in these areas. Air Force policy toward extended technical experience appeared to be unclear while ability to retain technical skills not being used was viewed as difficult. A majority of respondents believed that the Air Force does not give enough attention to the development of technical skills.

Recognizing that satisfaction with supervision is a function of both the individual's perceptions and the supervisor's actions, the split decision of respondents does not necessarily mean that half of the supervisors are not good supervisors. However, 45% of the respondents indicated the Air Force does not give enough attention to the development of supervisory skills.

CHAPTER VII

PROMOTION SYSTEM

Introduction

The fourth research objective was to determine perceptions related to the current enlisted promotion system. These included perceptions of that system with regard to technical and supervisory skills, and the transition from technician to supervisor mandated by promotion within the enlisted structure. The questionnaire items addressing this area are listed in Table 17 with the percentages by response categories.

Results

Discussion of significant findings within and between items follows.

27. Good performance as a technician is rewarded by the Air Force.

Only 30% of the respondents agreed with this statement. Almost 40% of the respondents assigned to SAC agreed; significantly higher than the other commands average of 27%. Of the respondents with no career intent, 75% disagreed

TABLE 17

PROMOTION SYSTEM

		PERCENT		
		Disagree	Agree	Undecided/ Don't know
27.	Good performance as a technician is rewarded by the Air Force.	67	30	4
35.	Good performance as a supervisor is rewarded by the Air Force.	35	53	13
32.	The Air Force promotion system emphasizes technical skills.	52	41	7
18.	The Air Force promotion system emphasizes supervisory skills.	38	54	8
22.	The Air Force promotion system does not reward technical skills.	17	71	12
33.	The Air Force loses technical ability by promoting technicians into supervisory jobs.	45	49	5
37.	Some technicians do not want to make the transition from technician to supervisor.	4	88	7
36.	Some technicians do not have the ability to become good supervisors.	6	93	1
17.	Good supervisors are born that way.	83	11	6
55.	I cannot advance in the Air Force without becoming a supervisor.	18	71	11

TABLE 17--Continued

	PERCENT		
	Disagree	Agree	Undecided/ Don't know
31. I should be allowed to advance without becoming a supervisor.	51	42	7
48. I think a technician should become a supervisor as a result of being promoted.	58	33	9
44. A technician should have the choice of whether to become a supervisor or to remain a technician or a technical supervisor.	18	72	10.

NOTE: Some rows do not sum to 100% due to no response/invalid response or rounding.

compared to 60% with career intent who disagreed. The 38% of supervisors and managers who agreed was significantly higher than the 24% of technicians and technical supervisors who agreed.

35. Good performance as a supervisor is rewarded by the Air Force.

Agreement was 53%. Similar to the preceeding item, 67% of the SAC respondents agreed compared to 48% from the other commands. Current duties and career intent showed no significant variation within groups.

32. The Air Force promotion system emphasizes technical skills.

18. The Air Force promotion system emphasizes supervisory skills.

Opinions on these two items were divided overall and within demographic and career intent groups. No significant variations were observed to the 41% and 54% agreement rates.

22. The Air Force promotion system does not reward technical skills.

Seventy-one percent of the respondents agreed. This level was not significantly different within any of the demographic or career intent groups. Many comments concerning promotion and technical skills were provided by the

respondents in the open-ended questions (questionnaire items 63-65). These are discussed in Chapter IX.

33. The Air Force loses technical ability by promoting technicians into supervisory jobs.

With 45% disagreement and 49% agreement, this was a controversial statement. Not suprisingly, only 35% of supervisors and managers agreed compared with 53% of technicians and technical supervisors.

37. Some technicians do not want to make the transition from technician to supervisor.

While 88% agreed overall, 96% of the technical and master sergeants agreed, compared to 86% of the lower grades.

36. Some technicians do not have the ability to become good supervisors.

With 93% agreement this was one of the most agreed upon statements in the survey. All of the master sergeants surveyed agreed with this statement. Although not statistically significant due to their small number (15), it was deemed worth mentioning.

17. Good supervisors are born that way.

With 83% disagreement the implication is that good supervisors are made, not born. However, 22% of the super-

visors and managers agreed with the statement; significantly higher than the 9% of technicians and technical supervisors who agreed.

55. I cannot advance in the Air Force without becoming a supervisor.

While only 62% of those with less than four years' service agreed, 80% of those with more than four years agreed. This could suggest that first term airmen's concept of "advance" was different, perhaps more limited, or that the statement was too nebulous, or that they lacked a knowledge or understanding of current promotion policy.

31. I should be allowed to advance without becoming a supervisor.

Overall 42% agreed. The 54% of those with less than four years service who agreed was significantly higher than the 29% of those with more tenure who agreed. Only 28% of those expressing career intent agreed, while 53% with no career intent agreed.

48. I think a technician should become a supervisor as a result of being promoted.

This statement is roughly the converse of the previous statement and, as such, one would expect similar percentages conversely applied. In fact, the 58% disagreement was significantly higher than the 42% agreement with

the previous statement. We suggest three possibilities for this situation. First, people answered inconsistently and the data are therefore invalid. This possibility underlies any questionnaire analysis, but the test for internal consistency, discussed in Chapter II, tended to indicate this was not necessarily so. Second, it is reasonable that individuals would react differently to the key words "I should" versus "a technician should." Third, there is the haziness between the key words "advance" and "promote." To some people they probably were equivalent in this context; to others perhaps not. These last two possibilities were real enough to not cause undue concern with respect to the relationship of the responses to the two statements.

The significant differences between groups again surfaced for length of service and career intent. While 26% of those with less than four years service agreed, 41% with more tenure agreed. Similarly, 43% of those with career intent agreed while only 21% agreed among those with no career intent.

44. A technician should have the choice of whether to become a supervisor or to remain a technician or technical supervisor.

Of those with less than four years service, 82% agreed, compared to 63% of those with more service, for 72% overall agreement. For those with career intent, 65% agreed, while 80% of those with no career intent agreed.

The element of choice for the technician is discussed further in the next chapter.

Observations

A majority of the respondents did not believe that good performance as a technician is well regarded by the Air Force or that the promotion system emphasizes technical skills. They did agree that good performance as a supervisor is rewarded and supervisory skills are emphasized by the promotion system. These were simple majority opinions and not overwhelming. However, the extent of disagreement was noteworthy.

There was substantial agreement that some technicians lack the ability and some the willingness to make the transition from technician to supervisor and that a technician should have the choice between the two.

CHAPTER VIII

CAREER TECHNICIAN

Introduction

The fifth research objective was to determine attitudes toward the concept of a career technician. Career technician was defined as a technician with 15 to 30 years of experience who is primarily a technician or technical supervisor rather than a supervisor. Promotion and job satisfaction were also included in this area. The questionnaire items are listed in Table 18 with the percentages by response categories.

Results

Discussion of significant findings within and between items follows.

40. Technicians who show potential for increased supervisory responsibilities should be promoted.

41. Technicians who do their jobs and continue to improve their technical skills should be promoted.

42. Technicians who do their jobs should be promoted.

TABLE 18

CAREER TECHNICIAN

		PERCENT		
		Disagree	Agree	Undecided/ Don't know
40.	Technicians who show potential for increased supervisory responsibilities should be promoted.	9	84	7
41.	Technicians who do their jobs and continue to improve their technical skills should be promoted.	4	94	3
42.	Technicians who do their jobs should be promoted.	24	68	9
57.	There is a need in the Air Force for career technicians. (Technicians with 15-30 years of experience who are primarily technicians or technical supervisors rather than supervisors).	15	75	10
49.	Good technicians should be allowed to work at their skills as long as they wish.	22	66	12
60.	I would stay longer in the Air Force than I now plan to stay if I could work as a technician or technical supervisor.	45	30	25
47.	I enjoy doing a job requiring use of my technical skills.	3	96	1
59.	There is more job satisfaction in technical job performance than in supervision.	24	59	18

TABLE 18--Continued

	PERCENT		
	Disagree	Agree	Undecided/ Don't know
53. If I could receive pay increases based on my job performance, I would prefer to spend my career doing technician's work, or technical supervisor's work.	16	69	15
46. The Air Force is interested in the job satisfaction of its members.	51	39	10
56. I look forward to my future in the Air Force.	34	45	20

NOTE: Some rows do not sum to 100% due to no response/invalid response or rounding.

The agreement rates were 84%, 94%, and 68% respectively. Each of these rates was significantly different from the others. The highest level of agreement was for promotion of technicians based on technical skill improvement.

57. There is a need in the Air Force for career technicians.

There was substantial (75%) agreement with this statement. Of the master sergeants surveyed, 93% agreed. Although this was not statistically significant because of the small number (15) of master sergeants, it was notable.

49. Good technicians should be allowed to work at their skills as long as they wish.

The 66% agreement was not significantly lower than the previous statement. Of those with less than four years service, 76% agreed, compared to 57% of those with longer tenure.

60. I would stay longer in the Air Force than I now plan to stay if I could work as a technician or technical supervisor.

Overall 30% agreed. Of those who expressed no career intent only 14% agreed with this statement. However, of those expressing an intent to make the Air Force a career, 37% agreed. Of those career intent respondents anticipating

having served 20 years at retirement, 29% agreed they would stay longer and another 25% were undecided. Of those already indicating a career intent beyond 20 years, over half agreed to the longer stay idea as did 35% of those undecided about how long they would serve.

47. I enjoy doing a job requiring use of my technical skills.

The 96% agreement would indicate that almost all of the technicians surveyed enjoyed technical work. Less than 1% of those intending to make the Air Force a career disagreed with this statement. Six percent of those not intending an Air Force career disagreed.

59. There is more job satisfaction in technical job performance than in supervision.

Agreement was 59%. Disagreement did not necessarily indicate less job satisfaction in technical job performance since satisfaction could have been considered comparable between the two types of work.

53. If I could receive pay increases based on my job performance, I would prefer to spend my career doing technician's work, or technical supervisor's work.

The 69% who agreed included 78% of those who agreed with the previous statement.

46. The Air Force is interested in the job satisfaction of its members.

Half the respondents disagreed: 49% of the men disagreed while 67% of the women disagreed.

56. I look forward to my future in the Air Force.

Only 45% agreed. Not surprisingly, career intent categories showed differences. Only 8% of those with no career intent agreed while 78% agreed of those inclined toward a career.

Observations

The respondents believed there is a need for career technicians and felt technicians who improve their technical skills should be promoted. They overwhelmingly enjoyed jobs requiring their technical skills but few believed the Air Force is interested in their job satisfaction. Some would stay longer than they now plan to stay if they could work as a technician or technical supervisor.

CHAPTER IX

RESPONDENTS' COMMENTS

Introduction

Questionnaire items 63 through 65 were open-ended. Items 63 and 64 asked, "What problems, if any, do you think the current promotion system has?" and "What changes, if any, would you like to see implemented in the promotion system?" Item 65 allowed the respondents to comment on any areas mentioned in the questionnaire. Although this section was labeled optional, 219 of the 369 respondents (59%) chose to express their views on various issues. Due to the general nature and close relationship of the items, the comments from all three were grouped for analysis.

After reviewing a number of the comment sheets, commonly mentioned areas became apparent. We then read each response and, as objectively as possible, labeled it according to subject matter. After all were read and labeled, the prevalent subjects were listed and grouped for discussion.

In the quotations used in the following sections, obvious spelling and punctuation errors have been corrected and abbreviations spelled out where needed for clarity.

The grammatical construction has been left as written by the respondents in most cases. Insertions for clarity are enclosed in parentheses.

Results

The subjects were grouped into four areas. The first area included issues related to promotion of airmen (as opposed to NCOs). The second area included issues related to promotion under the Weighted Airmen Promotion System (WAPS). The third area included issues related to supervision and the career technician. The fourth area was pay.

Promotion of Airmen

Three topics were prevalent in this area: length of time between promotions, predominantly the promotion from A1C to SrA; below the zone promotion to senior airman; and promotion criteria.

There were 22 comments concerning the length of time between promotions. Those commenting felt the length of time (up to two years) was excessive. Many also commented about pay in this regard. (Comments on pay are addressed later in this chapter.)

The twelve comments concerning below the zone promotion to SrA were all negative toward it. The individuals commenting indicated more weight should be given to actual

job performance. One A1C stated, "I feel that if you go in front of a promotion board, at least 50% of the questions should derive from your career field (AFSC)."

Eight comments concerned airman promotion criteria. The individuals believed that performance should be the main criterion, not time in grade or time in service. A SSgt commented that promotions to Amn, A1C, SrA, and Sgt should not be so "automatic." She thought airmen should be required to show more drive and initiative towards these promotions. An A1C also stated that the promotion system from E-1 through E-4 should be based on how well the airman performs as a technician, not on time in service. He also advocated early promotion for above average performance.

Weighted Airman Promotion System (WAPS)

The WAPS governs promotions to the grades of SSgt through MSgt. In the WAPS, six data elements are converted to weighted-factor scores. The six elements are the specialty knowledge test (SKT), the promotion fitness exam (PFE), time in service (TIS), time in grade (TIG), decorations, and Airman Performance Reports (APRs). Maximum point values and computation are shown in Table 19 (21:25). Individuals with the highest total scores in each AFSC are selected to fill vacancies forecasted during the promotion

TABLE 19

FACTORS AND POINTS IN WAPS (21:25)

Factor	Maximum Points	Remarks
Specialty Knowledge Test (SKT)	100	Individual score based on percent correct
Promotion Fitness Exam (PFE)	100	Individual score based on percent correct
Time in Service (TIS)	40	2 points per year (1/6 point per month) up to 20 years
Time in Grade (TIG)	60	1/2 point per month in current grade up to 10 years
Decorations	25	Various point values assigned, depending on decoration
Airman Performance Reports (APRs)	135	Sum of overall evaluation on all APRs for last 5 years (not to exceed 10 APRs), multiplied by 15 then divided by number of APRs.
Total	460	

cycle. Promotion sequence numbers are assigned according to date of rank, total active federal military service date, and date of birth (21:6). Each of the elements of WAPS was commented on by the respondents.

Tests. The most comments were received in the area of tests (SKT and PFE). There were 126 people, 58% of those who wrote comments, who mentioned topics related to the tests. There were two predominant critique areas. The general theme repeated 83 times was that good technicians are not necessarily good test takers. Many people felt that actual job performance should be more important than test scores. The following are examples of this opinion.

> Some people are very good at what they do but just can not take a test.
>
> Promotions are based on academic abilities rather than display of technical proficiency.
>
> You're promoted on how well you can study, comprehend, and take a test, not how well you can do your job.
>
> People who have trouble taking a test do not get promoted, although they may be much better mechanics than their counterparts who can take a test. . . . I believe more emphasis should be placed on hands-on equipment job proficiency than on the tests.

The second most popular critique concerned the SKT content. There were 38 comments to the effect that people were tested on equipment with which they were not familiar, and not tested on what they were proficient in. For example:

> Much of the material on the SKT is only seen once a year, at test time, by people testing. They have never had any hands-on experience on the equipment they're being tested on.
>
> I work on TF39 & TF33 engines and the test(s) are on J57 or J79 and I've never seen either one of those engines.
>
> I would like to see tests on your (own) specific engine.
>
> Test personnel on that particular aircraft or engine he or she may be working on at time of promotion, not what's in Air Force inventory.

Some respondents suggested more general SKT questions not tied to a specific type of engine.

Other comments, less frequently mentioned, concerned the need for feedback from the tests (to identify weak areas), recommendations for job proficiency practical evaluations, and change to the relative weights of SKT and PFE. Many mentioned that more emphasis should be placed on technical areas. One individual wrote:

> I would like to see the SKT have 150 questions on it and the PFE 50. I think your technical skills are more important and used a lot more than your general knowledge on PFE test.

The APR System. The APR system received comments by 38 respondents. Many pointed out abuses within the APR system including inflation of ratings. However, they believed, generally, that it could and should be revised to more accurately reflect job performance. Stated below are examples of the types of comments received.

> The system could work well if done in the manner it was meant to be done. . . . I was made reporting official for a troop with whom I have never even turned a wrench.
>
> I would like to see all supervisors be forced to use the APR system the way it was designed to be used.
>
> Limit APR ratings. 10% can be 9's, 20% 8's etc.
>
> A person must be outstanding in all aspects of the field to receive a 9 APR.
>
> I feel that the APR rating system is grossly abused, i.e. airmen and NCOs receiving higher ratings than they deserve because it's easier to write a good APR than to try to justify a marginal or bad one. . . . Would it be possible to get APR ratings back in perspective--overall 7=average or normal?
>
> The APR system should be revised and reevaluated to reflect a better picture of who should and shouldn't be promoted by their work and willingness to rise above the norm in technical knowledge and expertise.

TIG and TIS. Comments concerning TIG and/or TIS, received from 24 respondents, critiqued two different aspects of the subject. Ten people objected to line numbers being sequenced by TIG; they felt line numbers should be based on test scores or total scores. The others thought that TIG and TIS should be excluded from the WAPS criteria.

Decorations. Nine individuals expressed the opinion that the weight factor for decorations should be lowered or eliminated from WAPS.

Additions. Suggested additions to the WAPS were points for professional military education (PME) or off-duty education. Several people suggested that a screening process be used to determine who should be allowed to compete under WAPS.

Supervision and Career Technician

Quality of supervision, promotion into supervisory roles, and supervisor training were commented on. Many times these comments included the career technician idea. A total of 53 people commented on these areas and a sampling of their comments follows.

> I don't know about other shops or career fields, but in my shop you are not rewarded for anything. There is no morale at all. We come to work, do our jobs and leave with no recognition for a good job. I think that if there was more recognition for jobs well done it would increase the morale and the quality of work would be better.
>
> Supervisors need to learn to talk to their people more, rather than just barking out orders. Everyone likes to be congratulated for a job well done and will respond positively to this kind of treatment. We are human beings and not machines.
>
> I feel I do an excellent job as a jet engine mechanic. I know the engine well, I'm enthusiastic about my job, I work hard and try to learn more each day. And yet nobody cares. As a new SrA, I'm treated like a know-nothing. I'm told what to do, but not as an adult. Our supervisors think they have to tell us every little thing. . . . When I was new in the service, I was proud to be in the USAF, proud of my specific job, and proud of each accomplishment (including "Airman of the month"). Now I'm fed up and can't wait to get out. I want to be treated like an adult and respected in accordance with the quality of work I put out.

I know the need for supervision on a job is mandatory to get the best results; however, if a man/woman really doesn't want the responsibility he/she will hurt the people under them more than help. A supervisor is really the one that influences a person to stay in the Air Force or get out. I blame poor supervisors for the reason most people leave the Air Force.

The lack of communication between supervisor and worker is causing a very serious problem within my work section.

I feel that if the Air Force was to monitor its supervisors and personnel in the management levels more closely, that the service would then improve its environment and attract more of its first term technicians to reenlist. Why should I remain in the service and work for an organization that shows no recognition for doing a good job, and be held at the mercy of a supervisor and his whims?

Persons who have the desire to be supervisors would be a more successful supervisor, than a person who is forced into it.

It seems to me that as soon as you sew on Buck or Staff that you are placed in a supervisory position. I don't feel that sewing on another stripe should qualify you for a supervisory role.

I feel that if you are better qualified at technical skills that you should hold a position where you teach the new airman the technical skills required for the "wrench in hand" work, while someone else who prefers the "pencil in hand" work, performs the supervisory role.

I would very much like to see a "technician" shred-out in each skill. I have 12 years TIS and enjoy working on jet engines because I have an in-depth understanding of each system due to 6 years FTD (Field Training Detachment) experience. To put me behind a desk is worthless; the Air Force will lose my technical skill and gain a belligerent supervisor.

Some people are excellent working supervisors when they have only 3 or 4 people to worry about and not a whole shift, and when they are burdened with being a supervisor when they'd rather be bending a wrench they lose the want to stay in when they know they're going to be supervisors and not technicians. I believe the Air Force working structure should be split with technicians, technician supervisors, being able to stay in 20 or 30 years, still advance in grade, and not have to become supervisor(s) or managers unless they want to.

I think the Air Force would definitely be more (a)head if they let people be technicians who want to be and certain qualified people be supervisors. Some people make great technicians but lousy supervisors. I personal(ly) would like to see some specialist grades with comparable pay for job done.

Many people in supervisory positions are incompetent. I know of many cases within my own career field where people have memorized SKT and PFE answers and were promoted, but still these same people could not get along with their workers or actually manage a large branch. Some of these people were marginal as technicians also. In cases where the supervisor failed, they resorted to using threat or bullying tactics to prove they were the superior person. . . . Most of the time a person who is considered a good supervisor is a person who has no feelings for his workers. Our commanders and maintenance chiefs are largely responsible for that. Quote the reg and throw them in jail seems to be the attitude of many supervisors today. We can't keep good people anymore and a lot of it is because we have too many unqualified supervisors trying to over supervise too few mechanics.

If the managers took the time to teach technicians what their duties would be when they get promoted, they wouldn't have this fear, at least not all of it. But when the technicians have to go and do it by trial and error it gets frustrating. I know; it's the way I learned. Still, I suppose some people would like to stay technicians so I guess there should be some provision for them, because it would be nice to know that you have all that experience working for you.

I feel that, although supervisory positions are vital to the overall organization function, not enough emphasis is being placed on the technical skills. There are good technicians who are not necessarily cut out to be supervisors. It seems that unless they progress to the supervisory level they are either separated or classified as "problems or non-progressive." Some people are content to be very good at what they are doing <u>without</u> taking over a section or shop.

Under the current promotion system if a member performs well at his job and on his WAPS test he is promoted into a supervisory position. He may not want to be a supervisor or enjoy this type of work, which causes him to perform poorly. This affects all of the people working under him. . . . I would like to see a parallel promotion system in which you could achieve rank as a technician up to the technical supervisory level, (or) as a manager.

TOPCAP has forced an awful lot of talent out of the Air Force, E-5, E-6 mainly. I know of many who were satisfied doing their job and supported the mission. They were respected by their supervisors and subordinates alike, but because of Air Force policy they were forced to leave. How do you think the civilian companies could operate like that--having an unskilled worker replace a skilled employee because he did not make foreman?

I believe that the Air Force is currently stuck on the idea that <u>all</u> experience must eventually convert into supervisory/management positions. I feel that this experience is then lost to (the) Air Force. I believe the Air Force would benefit more by letting experienced personnel choose between supervisor/manager positions, or technical supervisor positions, as befits their capabilities, and then promotion test them by that position. I realize that certain positions <u>have</u> to be filled but I feel that there are enough people who <u>want</u> both areas to keep these positions filled.

I feel that one should be allowed to advance without becoming a supervisor. People have a tendency to do a better job at that which they want to do, and some people don't want to be a supervisor. Thus we have bad supervisors. Now 100% of the people who make the USAF a career will, at one time or another, be a supervisor. Only about 30% even with good training will be <u>good</u> supervisors, and that's what we need--<u>good</u> supervisors. Bad supervisors <u>train</u> bad supervisors. The impact that supervisors have on the working technicians is too important to be given to anyone with three stripes and a pen. Supervisors can control everything from reenlistment to morale. Better supervisors can cut down the need for more personnel by using all of our resources to (the) maximum. There is not nearly enough emphasis placed on the need for good supervisors, the training of good supervisors, or the value of good supervision. There's not an engine shop in the USAF that couldn't use a 15 or 20 year technician. Experience is probably the one most important factor in our concern for our reenlistments vs. our big turnover rate. Look how much experience you lose from an 8 year SSgt or 12 year TSgt. If they could be just technicians and not worry about everybody else maybe we could retain some. The Army has hard stripes and specialists, not a bad idea.

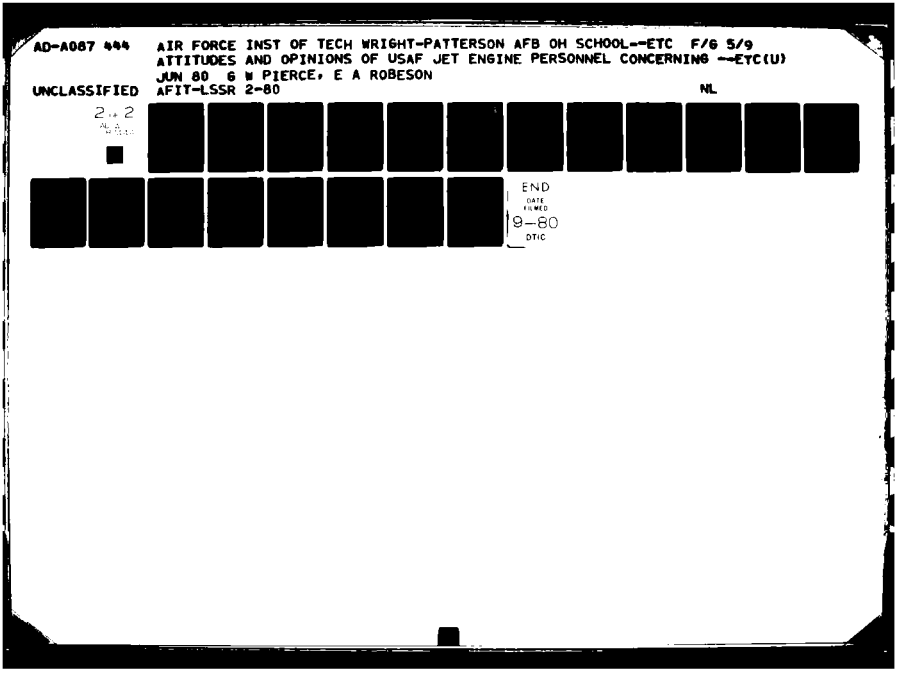
<u>Pay</u>

Twenty-six of the respondents commented about inadequate pay, including cost of living increases not keeping up with inflation. Some sample comments follow.

Most of the problems that the Air Force has have to do with money. I reenlisted for SSgt. I think if things don't get better I will get out. I can't live on less than $7,000 a year and hold the responsibilities I hold. We can't attract the people with the intelligence it takes to work on the highly complex systems we have today. The only way you will be able to is to pay a living wage.

It's almost to the point where even if an individual wants to make a career out of the Air Force he/she has to get out to support his/her family. For example, I'm a staff sergeant with 6 1/2 years of service and I have been receiving roughly $100 a month in food stamps since my return to the states almost two years ago.

Most NCO's today don't leave the military because of nonrecognition or promotions but because the pay isn't worth the effort. Any idiot can work for minimum wage and still get a cost of living increase at the end of the year. I think of separation from the Air Force not because I don't like it, in fact I do, but it just isn't feasible or monetarily sound to do so (to stay).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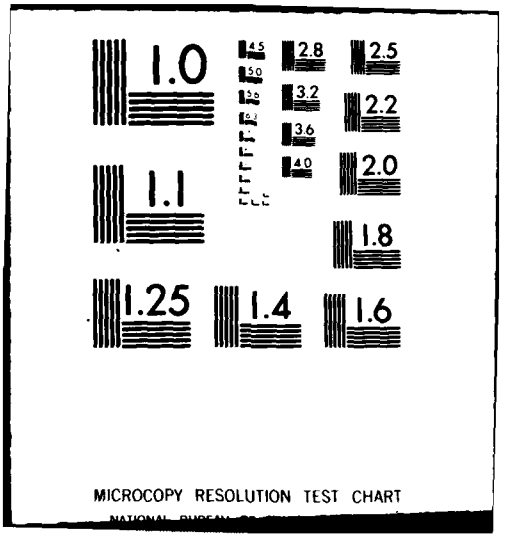
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CHAPTER X

SUMMARY

In this research a sample of jet engine personnel was surveyed concerning their attitudes and opinions of importance, status, skill and experience, current promotion system, transition from technician to supervisor, and the concept of career technician.

The Air Force enlisted career progression system prescribes that those who are promoted assume increasing supervisory and management duties with increasing rank (21:p.1-1). Promotion policy is to advance those "who show potential for more responsibility [22:2]." The importance to the Air Force of both technicians and supervisors was recognized by the survey respondents. However, the Air Force was perceived as regarding supervisors more highly than technicians. The Air Force was also perceived as according a lower status, or less value, to the individual who is not promoted. The lower status of technicians is also supported by the fifth who did not believe that the Air Force thinks technicians are important; the third who did not believe that the Air Force is proud of its technicians abilities; and the half who thought that the Air Force believes it is easy to replace an experienced technician.

Technician skill, experience, and quality of work was generally viewed as adequate but at least a fifth disagreed. Quality of supervision, however, emerged as a significant issue with divided opinion.

There was substantial agreement that some technicians do not have the ability and some do not want to make the transition from technician to supervisor. There was also agreement that technicians should have the choice of whether or not to transition. Respondents also indicated that promotion should be based on job performance and improvement of technical skills as well as supervisory potential. They generally agreed to the need for career technicians and many prefered this type of work.

The choice over transition, promotion based on job performance and improvement of technical skills, and the concept of career technicians are expressions of personal preference of the surveyed individuals but are not conditions provided in current Air Force promotion policy. Accompanying this expression of personal preference was the fact that over half held the opinion that the Air Force is not interested in the job satisfaction of its members and less than half were looking forward to their future in the Air Force.

The fact that substantial preference was expressed for alternatives not currently provided by the Air Force should not be construed to mean that the promotion system

should necessarily be changed to accomodate personal preference or job satisfaction. However, based on reaction to quality of supervision and individuals' comments, there is a strong indication that a problem exists concerning those who are being promoted and moving into supervisory roles. Do these people have the ability, the desire, and the training to properly perform their supervisory duties?

APPENDICES

APPENDIX A

QUESTIONNAIRE

DEPARTMENT OF THE AIR FORCE
AIR FORCE INSTITUTE OF TECHNOLOGY (ATC)
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433

REPLY TO ATTN OF: LSH

31 JAN 1980

SUBJECT: Jet Engine Career Ladder (AFSC 426XX) Questionnaire

TO:

1. The attached questionnaire was prepared by a research team at the Air Force Institute of Technology, Wright-Patterson AFB, Ohio. The purpose of this questionnaire is to obtain your attitudes toward some aspects of the enlisted career progression system.

2. You are requested to provide an answer for each question. Headquarters USAF Survey Control Number 80-46 has been assigned to this questionnaire. Your participation in this research is voluntary.

3. Your responses to the questions will be held confidential. Your cooperation in providing this data will be appreciated. Please return the completed answer sheet in the attached envelope within one week after receipt.

LEWIS M. ISRAELITT, Colonel, USAF
Dean
School of Systems and Logistics

2 Atch
1. Questionnaire
2. Return Envelope

PRIVACY STATEMENT

In accordance with paragraph 30, AFR 12-35, the following information is provided as required by the Privacy Act of 1974:

a. Authority:

(1) 5 U.S.C. 301, Departmental Regulations, and/or

(2) 10 U.S.C. 8012, Secretary of the Air Force, Powers, Duties, Delegation by Compensation; and/or

(3) DOD Instruction 1100.13, 17 Apr 68, Surveys of Department of Defense Personnel; and/or

(4) AFR 30-23, 22 Sep 76, Air Force Personnel Survey Program.

b. Principal purposes. The survey is being conducted to collect information to be used in research aimed at illuminating and providing inputs to the solution of problems of interest to the Air Force and/or DOD.

c. Routine uses. The survey data will be converted to information for use in research of management related problems. Results of the research, based on the data provided, will be included in written master's theses and may also be included in published articles, reports, or texts. Distribution of the results of the research, based on the survey data, whether in written form or presented orally, will be unlimited.

d. Participation in this survey is entirely voluntary.

e. No adverse action of any kind may be taken against any individual who elects not to participate in any or all of this survey.

JET ENGINE CAREER LADDER(426X2)QUESTIONNAIRE

General Instructions

1. Do not in any manner indicate your name or Social Security Number on the answer sheet.

2. We would like to know your opinions relative to the statements in this questionnaire. We are not trying to find out how much you know about current career policy. ANSWER THE ITEMS THE WAY YOU FEEL ABOUT THEM. We value your opinions.

3. Items 1-62 may be answered by filling in appropriate spaces on the answer sheet. If you do not find the exact answer that reflects your opinion, use the one that is closest to it. Items 63-65 may be answered in the space provided.

4. The answer sheet is designed for machine scanning of your responses. Please use a number 2 pencil.

5. The answers to 63-65, if you answer them, should be detached from the rest of the questionnaire and placed, along with the answer sheet, in the envelope provided. Place the envelope in outgoing official distribution.

THANK YOU FOR YOUR COOPERATION IN COMPLETING THIS QUESTIONNAIRE.

SNC 80-46;Expires 30 Mar 80

SECTION I

For the following questions choose the response which best reflects your current status.

1. What is your sex?
   A. Male B. Female

2. What is your marital status?
   A. Married B. Single, previously married, or separated

3. How old were you on your last birthday?
   A. 20 or less C. 26-30 E. 36-40
   B. 21-25 D. 31-35 F. 41 or more

4. What is your current active duty grade?
   A. Airman Basic E. Sergeant H. Master Sergeant
   B. Airman F. Staff Sergeant I. Senior Master Sergeant
   C. Airman First Class G. Technical Sergeant J. Chief Master Sergeant
   D. Senior Airman

5. How many years active military service have you completed?
   A. Less than 4 years E. 16 or more, but less than 20 years
   B. 4 or more, but less than 8 years F. 20 or more, but less than 24 years
   C. 8 or more, but less than 12 years G. 24 or more, but less than 28 years
   D. 12 or more, but less than 16 years H. 28 or more

6. To which major command are you assigned?
   A. AFCC D. ATC G. TAC
   B. AFLC E. MAC H. Other
   C. AFSC F. SAC

7. What is your skill level?
   A. 3 D. 9
   B. 5 E. Not applicable-CMSgt CEM code
   C. 7

8. What is the highest level of education you have completed?
   A. Less than high school graduate
   B. High school diploma or equivalency certificate
   C. Less than two years of education beyond high school(college/vocational-technical school)
   D. Associate degree or two years of college, or more
   E. Bachelor's degree
   F. Some/any work beyond bachelor's degree

9. At this time, what is your attitude toward making the Air Force a career?
   A. Have already made the Air Force a career
   B. Definitely intend to make the Air Force a career
   C. Probably will make the Air Force a career
   D. Not sure/undecided
   E. Probably will not make the Air Force a career
   F. Definitely will not make the Air Force a career

10. How many years do you anticipate having served when you retire from the Air Force?
   A. Not applicable, I do not plan to serve until retirement
   B. 20 E. 27-28
   C. 21-23 F. 29-30
   D. 24-26 G. not sure

11. Please read the following definitions which apply to terms used in the rest of this questionnaire.

TECHNICIAN-one who uses technical skills to perform maintenance on jet engines or their components. This may be done as an apprentice, mechanic, technician, or specialist, as these terms are used in duty titles. The key idea is "wrench in hand."

TECHNICAL SUPERVISOR-one who uses technical skills to perform maintenance on jet engines or their components and who also directly supervises those performing maintenance. The key idea is "supervising with wrench in hand."

SUPERVISOR-one who is accountable for the work of technicians and technical supervisors, and for the administrative details involved with that work. This includes, but is not limited to, duty status, training, supply accounts, work assignments, priority setting, and technical and administrative documentation. The key idea is "pencil in hand."

MANAGER-one who is accountable for the overall planning, organizing, coordinating, directing, and controlling of maintenance activities, at branch level or higher.

Based on the above definitions, which of the following most closely identifies your current duties?

A. Technician
B. Technical supervisor
C. Supervisor
D. Manager

SECTION 2

Look at the categories on this scale.

Strongly Disagree	Disagree	Slightly Disagree	Undecided/ Don't know	Slightly Agree	Agree	Strongly Agree
A	B	C	D	E	F	G

Decide which one of these categories best expresses your personal agreement/disagreement with each of the statements that follow. Mark the corresponding letter on the answer sheet provided. Please keep in mind the definitions given in #11.

12. In today's Air Force, technicians need to be more highly skilled than ever before.

13. Good supervisors are respected by the people they work with.

14. The Air Force is proud of its technicians' abilities.

15. The quality of work performed by technicians in my career field is above Air Force standards.

16. I think supervisors are important to the Air Force.

17. Good supervisors are born that way.

18. The Air Force promotion system emphasizes supervisory skills.

19. I think technicians are important to the Air Force.

20. Air Force technicians in my career field are, on the whole, adequately skilled.

21. The Air Force thinks that supervisors are important.

22. The Air Force promotion system does not reward technical skills.

23. The Air Force encourages technicians in my career field to get extended experience as technicians.

24. Air Force technicians in my career field are, on the whole, adequately experienced.

25. A technician who has not been promoted is less respected than a technician who has been promoted.

26. The Air Force regards supervisors more highly than it regards technicians.

27. Good performance as a technician is rewarded by the Air Force.

28. I believe that the person who does not get promoted is less valuable than one who does.

29. Families believe supervisors are more important to the Air Force than technicians are.

30. When technicians leave my work center (PCS, Separation, etc.), it is easy to replace their technical skills.

Strongly Disagree A	Disagree B	Slightly Disagree C	Undecided/ Don't know D	Slightly Agree E	Agree F	Strongly Agree G

31. I should be allowed to advance without becoming a supervisor.

32. The Air Force promotion system emphasizes technical skills.

33. The Air Force loses technical ability by promoting technicians into supervisory jobs.

34. I believe that technicians should be proud of their abilities.

35. Good performance as a supervisor is rewarded by the Air Force.

36. Some technicians do not have the ability to become good supervisors.

37. Some technicians do not want to make the transition from technician to supervisor.

38. I feel that technicians are valuable to the Air Force, whether or not they are promoted.

39. The Air Force believes it is easy to replace an experienced technician.

40. Technicians who show potential for increased supervisory responsibilities should be promoted.

41. Technicians who do their jobs and continue to improve their technical skills should be promoted.

42. Technicians who do their jobs should be promoted.

43. I am satisfied with the quality of supervision I receive.

44. A technician should have the choice of whether to become a supervisor or to remain a technician or a technical supervisor.

45. Good technicians are respected by the people they work with.

46. The Air Force is interested in the job satisfaction of its members.

47. I enjoy doing a job requiring use of my technical skills.

48. I think a technician should become a supervisor as a result of being promoted.

49. Good technicians should be allowed to work at their skills as long as they wish.

50. The Air Force promotion system rewards technical skills.

51. Good technicians who have not been promoted are respected for their technical skills.

52. The Air Force believes that the person who does not get promoted is less valuable than the one who does.

53. If I could receive pay increases based on my job performance, I would prefer to spend my career doing technician's work, or technical supervisor's work.

54. The Air Force thinks that technicians are important.

55. I cannot advance in the Air Force without becoming a supervisor.

56. I look forward to my future in the Air Force.

57. There is a need in the Air Force for career technicians. (Technicians with 15-30 years of experience who are primarily technicians or technical supervisors rather than supervisors).

58. It's difficult for supervisors to retain those technical skills they no longer have the opportunity to use.

59. There is more job satisfaction in technical job performance than in supervision.

60. I would stay longer in the Air Force than I now plan to stay if I could work as a technician or technical supervisor.

61. Which of the following most closely represents your opinion of the amount of attention the Air Force gives to developing supervisory skills?
A. Not nearly enough
B. Not enough
C. Undecided/No opinion
D. Enough
E. Too much

62. Which of the following most closely represents your opinion of the amount of attention the Air Force gives to developing technical skills?
A. Not nearly enough
B. Not enough
C. Undecided/No opinion
D. Enough
E. Too much

SECTION 3

Open-Ended Questions--Response is OPTIONAL. If you answer these, please tear off this page and return it with your answer sheet in the envelope provided.

63. What problems, if any, do you think the current promotion system has?

64. What changes, if any, would you like to see implemented in the promotion system?

65. Please feel free to comment on any of the areas mentioned in this questionnaire. (You may use the back side of this page.)

APPENDIX B

STATISTICAL PROCEDURES

Difference Test

The statistical test used for the difference between two population proportions is outlined below (14:325-327). This method was used for comparisons of differences within a questionnaire item, since the two groups were mutually exclusive demographic or career intent categories.

The alternatives were:

$$H_0: \quad p_2 - p_1 = 0$$

$$H_1: \quad p_2 - p_1 \neq 0$$

The alpha (α) risk at $p_2 - p_1 = 0$ was to be controlled at .05. Rejection of the null hypothesis was interpreted to mean a significant difference existed between the two proportions.

Calculation of the action limits for the two tailed test required an estimate of $\sigma(\bar{d})$ when $p_2 - p_1 = 0$. Since $p_2 = p_1$ in this case, p represents their common value. To estimate p from the two samples, the pooled estimator of p was calculated:

$$\bar{p}' = \frac{n_1\bar{p}_1 + n_2\bar{p}_2}{n_1 + n_2}$$

Then a sample estimator of $\sigma^2(\bar{d})$ based on the pooled estimator $\bar{p}'$ was:

$$s_c^2(\bar{d}) = \bar{p}'(1 - \bar{p}')(\frac{1}{n_2} + \frac{1}{n_1})$$

The decision rule then was:

If $A_1 \leq \bar{d} \leq A_2$, conclude H_0

If $\bar{d} < A_1$, or $\bar{d} > A_2$, conclude H_1

where:

$$A_1 = 0 + z(\alpha/2)s_c(\bar{d})$$

$$A_2 = 0 + z(1 - \alpha/2)s_c(\bar{d})$$

The $z(\alpha/2)$ and $z(1 - \alpha/2)$ were -1.96 and 1.96, respectively, for $\alpha = .05$. The $s_c(\bar{d})$ was the square root of $s_c^2(\bar{d})$, whose formula was given above.

Confidence Interval Approach

The confidence interval approach for the population proportions is outlined below (14:298). This method was used for comparison of differences between questionnaire items, since the sample, n, was identical for both p's. The sample size at 369 was large enough to use the normal distribution for approximation.

A two-sided confidence interval for the population proportion p with approximate confidence coefficient $1 - \alpha$ is $L \leq p \leq U$ where

$$L = \bar{p} - z(1 - \alpha/2)s(\bar{p})$$

$$U = \bar{p} + z(1 - \alpha/2)s(\bar{p}).$$

The $z(1 - \alpha/2)$ was 1.96 based on $\alpha = .05$. The $s(\bar{p})$ was computed:

$$s(\bar{p}) = \sqrt{1 - \frac{n}{N}} \sqrt{\frac{\bar{p}(1 - \bar{p})}{n - 1}}$$

After computing confidence intervals for two different p's, if the intervals overlapped, the two p's were judged as not significantly different. If the confidence intervals did not overlap, this was interpreted as a significant difference between the p's.

Since these procedures constituted multiple tests on the same data base, the alpha level may be somewhat greater than that specified in a given test.

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